

RESOLUTIONS PASSED BY THE POLAR YEAR COMMISSION OF THE INTERNATIONAL METEOROLOGICAL COMMITTEE AT LENINGRAD, AUGUST, 1930¹

Upon the invitation of the Academy of Sciences and of the hydrometeorological committee of the Union of Socialist Soviet Republics received through Prof. A. P. Karpinsky, president of the Academy of Sciences, a conference of the International Commission for the Polar Year of 1932-33 was held in Leningrad, August, 26-30, 1930, under the presidency of Dr. D. la Cour. The international commission was represented at this conference by Messrs. D. la Cour (Denmark), H. Dominik (Germany), J. A. Fleming (United States), H. Hergesell (Germany), W. E. W. Jackson (Canada), A. P. Karpinsky (Union of Socialist Soviet Republics), J. Keränen (Finland), Ch. Maurain (France), G. C. Simpson (Great Britain), H. U. Sverdrup (Norway), and A. Wangenheim (Union of Socialist Soviet Republics). There were also present, as the guests of the international commission, Messrs. H. D. Harradon (United States) and V. Laursen (Denmark), and Miss Bruun de Neergaard (Denmark).

The following scientists of the Union of Socialist Republics participated in the sessions of the conference: A. P. Karpinsky, president of the Academy of Sciences and of the Polar Commission of the Union of Socialist Soviet Republics, member of the International Commission for the Polar Year of 1932-33; A. Wangenheim, president of the hydrometeorological committee of the Union of Socialist Soviet Republics, member of the International Commission for the Polar Year of 1932-33; J. Schokalsky, president of the Geographical Society of Russia, corresponding member of the Academy of Sciences, and member of the Polar Commission of the Union of Socialist Republics; L. Rudowitz, chief of the hydrometeorological department of the Hydrographic Office; A. M. Lawrow, member of the Polar Commission of the Union of Socialist Soviet Republics, collaborator of the Hydrographic Office; N. Rose, collaborator of the Central Geophysical Observatory and member of the Polar Commission of the Union of Socialist Soviet Republics; W. N. Obloensky, V. Schuleikin, B. Weinberg, A. Kaminsky, A. Schönrock, W. Arnold-Alabjew, and M. Kartzeff, collaborators of the Central Geophysical Observatory; W. Schostakowitsch, collaborator of the Central Geophysical Observatory, former director of the Geophysical Observatory at Irkutsk; A. Tolmatchew, secretary of the Polar Commission and of the local committee on the Polar Year of the Union of Socialist Soviet Republics, chief of the expedition of the Academy of Sciences of the Union of Socialist Soviet Republics to the region of Petchora; D. Rudnew, member of the Polar Commission of the Union of Socialist Soviet Republics; P. Moltschanow, director of the Aerological Observatory at Sloutzk; Trutnew, director of the Geophysical Observatory at Irkutsk; A. W. Sokolow, collaborator of the hydrometeorological committee of the Union of Socialist Soviet Republics; W. Timonoff, collaborator of the National Hydrological Institute; N. N. Kalitin, director of the Actinometric Institute at Sloutzk; R. Khuzechwilli, director of the Magnetic Observatory at Sloutzk; V. Akhmatow, vice director of the Hydrographic Office.

The principal objects of the conference were to receive reports on the actual state of preparation in the various countries for the work of the polar year, the actions taken by the international organizations to support the project,

and to consider in more detail the research program which may be accomplished. It appeared from the proceedings and discussions of the conference that unusual interest is being evidenced everywhere in the successful outcome of the plans for the polar year of 1932-33.

As the result of this conference and following discussion of the reports submitted, some 22 resolutions were adopted which are briefly summarized below.

1. The polar year of 1932-33 is designated to begin August 1, 1932, and to continue for 13 months through August 31, 1933, that is, the actual period of recorded observations is not to be less than 13 months.

2. It is desirable that all stations taking part in the program for the polar year zonal time should be used, that is, Greenwich mean time $\pm n$ hours, where n is a whole number.

3. The desirable network of magnetic stations north of 55° latitude recommended is as follows: Lerwick, Shetland Islands; Eskdalemuir, Scotland; Jan Mayen Island; station on east coast and station on west coast of Iceland; Mygbugten, Scoresby Sound, Angmagssalik, Ivigtut, Godthaab, Godhavn, and Thule (Cape York), Greenland; Lady Franklin Bay (Fort Conger), Ellesmere Island; Kingua Fiord, Baffin Island; Chesterfield, Fort Rae, and Meanook, Canada; Sitka and Fairbanks, Alaska; Yellen (East Cape), Nijni Kolymsk, Yakutsk, Bulun, Dickson, and Sverdlovsk, Siberia; Matochin Shar, Novaya Zemlya Island; Hooker Island, Franz Josef Land; Kazan, Kouchino, Kandalaksha, and Sloutzk (Pavlovsk), Union of Socialist Soviet Republic; Petsamo and Sodankylä, Finland; Hammerfest or Bossekop, Kautokeino, Abisko, and Tromsø, Norway; Bear Island; Spitzbergen; Stockholm (Lövö), Sweden; and Copenhagen (Rude Skov), Denmark. (For 21 of these stations definite provision is already made.)

4. The establishment of the magnetic stations proposed by the national committees of various countries but not yet assured, is considered of very great importance for the work of the polar year, and the commission recommends very strongly their establishment.

5. Since a station in Lady Franklin Bay would be located near the station Thule (Cape York, Greenland) but on the opposite side of the magnetic axis of the earth (and between it and the north geographic pole), it is of urgent importance that a magnetic station be established in the vicinity of Lady Franklin Bay.

6. In view of the location of Iceland near the zone of maximum frequency of the aurora, the commission recommends establishing two magnetic stations in Iceland, one toward the west and the other toward the east.

7. It is important that there be a network of magnetic stations also in the Antarctic, which may be furthered through the help of whalers stationed in the Antarctic; there should be especially a station as close as possible to the south magnetic pole.

8. The commission is pleased to note that the Republic of Argentina will collaborate in the polar year at the station in the South Orkneys, and hopes that that Government will renew the old station on New Year's Island.

9. In view of the importance of a knowledge of the magnetic field and of its variation in the vast extent of the oceans, the establishment of magnetic stations on Easter Island, on the island of Tristan da Cunha in the southern Atlantic, and on the Kerguelen Islands in the Indian Ocean is strongly recommended.

10. It is desirable that the special polar year program of magnetic observations be continued as long as possible over the whole world. In the Antarctic the observations should begin if possible half a year before and continue half a year after the polar year as above defined.

11. The commission recommends making magnetic observations with registering apparatus of great speed, according to proposals which will be communicated later.

12. All types of instruments that have not already been used in the polar regions, but which will be used during the polar year, should be tested as soon as possible by actual use at an Arctic station. (The Finnish Government has offered the use of its station and facilities at Sodankylä for this purpose and for the instruction of observers.)

13. It is desirable that the magnetic program of the commission be sent to all the observatories of the world, with the request that each cooperate in following that program; this is especially the case for those observatories situated in regions where there are few observatories.

14. In view of the importance of the researches considered by the commission of all magnetic data relating to the polar regions, catalogues of magnetic determinations in the polar regions pre-

¹ Abstracted by J. A. Fleming and W. J. Peters from the minutes of the meeting supplied by the chairman, D. la Cour. For the resolutions passed at the Copenhagen meeting in September, 1929, at which provision for the Polar Year Commission, 1932-33 was made, see Terr. Mag., 34, 1929 (317-318).

pared by W. J. Peters of the Carnegie Institution of Washington and B. Weinberg of the Central Geophysical Observatory of Leningrad should be published by the Union of Socialist Soviet Republics, if possible, before the polar year.

15. The commission regards the following mountain stations desirable for the execution of the meteorological program: 2 on the west coast, 1 near the southern coast, 2 on the east coast, and 1 on the northeastern coast of Greenland; 2 on Iceland; 1 on Jan Mayen Island; 1 on the Faroe Islands; 2 in Norway; 1 in Spitzbergen; 1 on the Kola Peninsula at Chibiny; 1 at Matochin Shar; 1 in Franz Josef Land; 1 at Boulbough (Verkhoyansk Mountains); and 1 near Bering Strait.

16. For the execution of the aerological program, five stations around the Arctic are desired and it is recommended that one each be established in Alaska, in Canada, in Greenland, in Spitzbergen, and in the Union of Socialist Soviet Republic.

17. The countries interested in the polar year are requested to arrange for pilot-balloon stations on board as well as for the careful training of the personnel of "selected ships" for aerological and meteorological investigations at sea.

18. It is recommended that the program of investigation of the upper layers of the atmosphere submitted by Professor Moltchanow for the study of the temperature-gradient should be supported by the Union of Socialist Soviet Republics, if in any way possible, with the necessary means.

19. The publication in the protocol of the conference was authorized of Prof. A. Kaminsky's communication on investigation of climate in polar regions with recommendation that his proposition be considered especially in regard to establishing observing stations.

20. Having received the report Hydrological investigations in the period of the International Polar Year and the detailed program in hydrology proposed by the institutions of the Union of Socialist Soviet Republics, the commission considers that program important both from the economic viewpoint and the viewpoint of geophysical science, and directs that these documents be submitted to the subcommittee created to consider the questions of exploring the sea during the polar year.

21. The report from the permanent actinometric commission of the hydrometeorological committee of the Union of Socialist Soviet Republics submitted by Prof. M. N. Kalitin on the organization of the actinometric work during the polar year was accepted with thanks and authority given to publish it in the protocol of the conference.

22. The commission on the higher atmosphere, the commission on clouds, and other international commissions are asked to decide upon and to communicate one year before the beginning of the polar year those dates selected for particular programs of observation, in order that they may be included appropriately in the program of the polar year.

Special committees, which were requested to make their reports by the end of 1930, were appointed to consider and prepare reports upon questions relative to standard equipment, to methods of observing and recording, and to publication. The members of the committees are: Publication, Messrs. Simpson, Sverdrup, and Maurain; magnetic instruments, Messrs. Fleming, la Cour, and Keränen; meteorological instruments, Messrs. Simpson and Sverdrup; aerological instruments, Messrs. Hergesell and Wangenheim; actinometric instruments, Messrs. Wangenheim and Dominik; atmospheric-electric instruments, Messrs. Maurain, Hergesell, and la Cour; earth-current instruments, Mr. Fleming; instruments for auroral observation, Messrs. Maurain, la Cour, and Keränen.

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CLIMATOLOGICAL CHARTS FOR THE ALLEGHENY FOREST REGION

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There is a great use for climatological charts in forest research. One of the most frequent uses of such charts is in the study of distribution of forest types and individual tree species. The foundation for the study of the influence of climate on vegetation has been laid by Merriam, Abbe, Livingston, Shreve, among others, and serves as an excellent basis for a more elaborate investigation of any particular region. Bates, at the Lake States Forest Experiment Station, has found that Norway pine in the Lake States, whence comes the bulk of the seed used for artificial reforestation with this species, grows under mean summer temperatures varying only from 56° to 66° F. This is very important from the silvicultural point of view because it has been learned in Sweden that if the variation of the mean summer temperature of a planting site differs by so much as 1° C. (1.8° F.) from that of the seed source, results may be only 65 per cent as good as if home-grown seed had been used. According

to Bates, traffic lanes for seed will ultimately be laid along isothermal lines.

Climatological charts of a scale large enough to be useful in regional or local studies are generally available only for the several States. But vegetation recognizes few political boundaries and the Federal forest experiment stations are organized so far as possible on a regional basis. When, therefore, the Allegheny Forest Experiment Station recently undertook to compile charts of precipitation, temperature, and other climatic factors, it was confronted with the task of placing on a single map data from four different States—Delaware, Maryland, New Jersey, and Pennsylvania.

As a result of an inquiry sent to the Weather Bureau section directors of the States concerned and the adjoining States, it was learned that but few charts were available. Virginia and West Virginia had none. The charts procured are listed in Table 1. Summaries "of the climatological data for the United States" were received for all the States.

¹ Acknowledgment: Mr. George S. Bliss, section director, U. S. Weather Bureau, Philadelphia, Pa., gave many helpful suggestions which were followed in the preparation and revision of the charts.